

What Is Claimed Is:

1. An organic electroluminescent display device, comprising:

first and second substrates facing and spaced apart from each other, the first and second substrates having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions;

a first pad disposed at the peripheral region on an inner surface of the first substrate;

a driving thin film transistor disposed at each of the plurality of pixel regions on the inner surface of the first substrate, the driving thin film transistor including an active layer, a gate electrode, and source and drain electrodes;

a first connection electrode structure connected to the drain electrode;

a second connection electrode structure connected to the first pad, the second connection electrode structure being the same as the first connection electrode structure;

a first electrode on an entire inner surface of the second substrate, the first electrode being connected to the second connection electrode structure;

an organic emission layer on the first electrode;

a second electrode on the organic emission layer at each of the plurality of pixel regions, the second electrode being connected to the first connection electrode structure; and

a sealant attaching the first and second substrates together.

2. The device according to claim 1, wherein the active layer includes polycrystalline silicon.
3. The device according to claim 1, further comprising a power line connected to the driving thin film transistor.
4. The device according to claim 3, further comprising a storage capacitor connected to the gate electrode.
5. The device according to claim 1, wherein the first electrode is an anode for injecting holes into the organic emission layer, and the second electrode is a cathode for injecting electrons into the organic emission layer.
6. The device according to claim 5, wherein the first electrode includes one of indium-tin-oxide (ITO) and indium-zinc-oxide (IZO).
7. The device according to claim 5, wherein the second electrode includes one of calcium (Ca), aluminum (Al) and magnesium (Mg).

8. The device according to claim 1, wherein the first pad and the second connection electrode structure are disposed at an interior of the sealant, and the first pad and the second connection electrode structure are formed on at least one side of the peripheral region.

9. The device according to claim 1, wherein the first pad and the second connection electrode structure are disposed at an exterior of the sealant, and the first pad and the second connection electrode structure are formed on at least one side of the peripheral region.

10. The device according to claim 1, further comprising a plurality of first auxiliary electrodes between the first electrode and the second substrate, wherein the plurality of first auxiliary electrodes are disposed between the plurality of pixel regions, and the plurality of first auxiliary electrodes have lower resistance than the first electrode.

11. The device according to claim 1, further comprising a second auxiliary electrode between the second connection electrode structure and the first electrode, wherein layer structure and materials of the second auxiliary electrode is the same as the second electrode.

12. A method of fabricating an organic electroluminescent device, comprising:

forming a first insulating layer on a first substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions;

forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon and having source and drain regions;

forming a second insulating layer on the active layer;

forming a gate electrode on the second insulating layer over the active layer;

forming a third insulating layer on the gate electrode, the third insulating layer having a first contact hole exposing the source region and a second contact hole exposing the drain region;

forming source and drain electrodes and a first pad on the third insulating layer, the source electrode being connected to the source region through the first contact hole, the drain electrode being connected to the drain region through the second electrode, and the first pad being disposed at the peripheral region;

forming a fourth insulating layer on the source and drain electrodes and the first pad, the fourth insulating layer having a third contact hole exposing the drain electrode, and fourth and fifth contact holes exposing the first pad;

forming first and second connection electrodes on the fourth insulating layer, the first connection pattern being connected to the drain electrode through

third contact hole, the second connection electrode being connected to the first pad through the fourth contact hole;

forming a first electrode on a second substrate having a plurality of pixel regions and a peripheral region surrounding the plurality of pixel regions;

forming an organic emission layer on the first electrode;

forming a second electrode on the organic emission layer at each of the plurality of pixel regions; and

attaching the first and second substrates together with a sealant material,

wherein the first connection electrode contacts the second electrode, and the second connection electrode contacts the first electrode.

13. The method according to claim 12, wherein the first electrode is an anode for injecting holes into the organic emission layer, and the second electrode is a cathode for injecting electrons into the organic emission layer.

14. The method according to claim 13, wherein the first electrode includes one of indium-tin-oxide (ITO) and indium-zinc-oxide (IZO).

15. The method according to claim 13, wherein the second electrode includes one of calcium (Ca), aluminum (Al) and magnesium (Mg).

16. The method according to claim 12, further comprising:

forming a polycrystalline silicon pattern connected to the gate electrode;

and

forming a capacitor electrode over the polycrystalline silicon pattern

constituting a storage capacitor,

wherein the capacitor electrode is connected to the drain electrode.

17. The method according to claim 12, wherein the first pad and the second connection electrode are disposed at an interior of the sealant, and the first pad and the second connection electrode are formed on at least one side of the peripheral region.

18. The method according to claim 12, wherein the first pad and the second connection electrode are disposed at an exterior of the sealant material, and the first pad and the second connection electrode are formed on at least one side of the peripheral region.

19. The method according to claim 12, further comprising forming a plurality of first auxiliary electrodes between the first electrode and the second substrate, wherein the plurality of first auxiliary electrodes are disposed between the plurality

of pixel regions, and the plurality of first auxiliary electrodes have lower resistance than the first electrode.

20. The method according to claim 12, further comprising forming a second auxiliary electrode between the second connection electrode and the first electrode, wherein the second auxiliary electrode has the same layer structure and the same materials as the second electrode.